Volume 9 1969

Table of Contents

Nucleic Acids and Protein Synthesis — Biochemical Genetics — Morphogenesis

1 N. Granboulan and K. Scherrer: Visualisation in the Electron Microscope and Size of RNA from Animal Cells

21 F. Zampetti-Bosseler, P. Malpoix, and M. Fievez: Differential Inhibition of Protein Synthesis in the Nucleus and Cytoplasm of HeLa Cells in the Presence of Actinomycin, Puromycin and Hydroxyurea

27 J. Černá, I. Rychlík, and P. Pulkrábek: The Effect of Antibiotics on the Coded Binding of Peptidyl-tRNA to the Ribosome and on the Transfer of the Peptidyl Residue to Puromycin

42 M. Kogut and M. Harris: Effects of Streptomycin in Bacterial Cultures Growing at Different Rates; Interaction with Bacterial Ribosomes *in vivo*

50 R. A. Harvey, C. S. McLaughlin, and M. Grunberg-Manago: Polynucleotide Phosphorylase: Anomalous Viscosity Changes Observed during the Polymerization of Nucleoside Diphosphates

112 J. B. Hudson: An Analysis of the Polyoma Virus DNA-RNA Hybridization Reaction *in vitro*

199 G. M. Simonnet et F. Chapeville: Action de la canavanine sur la synthèse du RNA chez *E. coli*

207 G. R. Björk and I. Svensson: Studies on Microbial RNA. Fractionation of tRNA Methylases from *Saccharomyces cerevisiae*

216 I. Svensson, G. R. Björk, and P. Lundahl: Studies on Microbial RNA. Properties of tRNA Methylases from *Saccharomyces cerevisiae*

222 B. Molholt and B. de Groot: Double Conditional Lethality: Temperature-Sensitive and Amber Mutations in the Glucosyl Transferase Gene of Bacteriophage T2

263 J. Drews: Nuclear RNA Fractions Obtained by Sequential Extraction of Rat Liver Nuclei with Salt Solutions and their Relationship to Polysome-Associated RNA

275 P. Krémers and E. Fredericq: Interactions of Ribosomal RNA with Synthetic and Natural Polybases

311 R. Mertelsmann: Purification and Some Properties of a Soluble DNA-Dependent RNA Polymerase from Nuclei of Human Placenta

319 W. Seifert, P. Qasba, G. Walter, P. Palm, M. Schachner, and W. Zillig: Kinetics of the Alteration and Modification of DNA-Dependent RNA-Polymerase in T_4-Infected *E. coli* Cells

325 A. G. Lezius and E. Metz: Specificity and Function of Exonuclease II in the Synthesis of Alternating Copolymers by DNA Polymerase

363 R. Gaillard: Étude en culture continue du phénomène de répression transitoire. Mise en évidence d'une synthèse linéaire de la β-galactosidase

431 D. Gallwitz and G. C. Mueller: Protein Synthesis in Nuclei Isolated from HeLa Cells

445 R. D. Nolan and H. R. V. Arnstein: The Dissociation of Rabbit Reticulocyte Ribosomes with EDTA and the Location of Messenger Ribonucleic Acid

542 P. Hausen, H. Stein, and H. Peters: On the Synthesis of RNA in Lymphocytes Stimulated by Phytohemagglutinin. The Activity of Deoxyribonucleoprotein-Bound and Soluble RNA Polymerase

579 T. Hultin: The Use of Procion Blue as a Molecular Probe in the Study of Ribosomal Structure

Protein Chemistry — Enzymology — Physical Chemistry

79 S. K. Mitra and A. H. Mehler: Reaction of Amino Acid-tRNA Synthetases with 2'-Deoxyadenosine Triphosphate

82 W. Behr, K. Honikel, and G. Hartmann: Interaction of the RNA Polymerase Inhibitor Chromomycin with DNA

118 H. Rüterjans and H. Witzel: NMR-Studies on the Structure of the Active Site of Pancreatic Ribonuclease A

133 H. Klenow and I. Henningsen: Effect of Monovalent Cations on the Activity of the DNA Polymerase of *Escherichia coli* B

142 T. Pocklington and J. Jeffery: 20β-Hydroxysteroid: NAD Oxidoreductase Activity towards 3β-Hydroxypregn-5-en-20-one Sulphate and Related Free Steroids

156 H. S. Jansz, J. Zandberg, J. H. van de Pol, and E. F. J. van Bruggen: Circular DNA from *Shigella paradysenteriae*

176 M. Shinitzky and M. Fridkin: Spectral Studies with Histidyl-Tryptophan Peptides

237 G. Lacombe, N. v. Thiem et N. v. Thoai: L'ATP : L-arginine phosphotransférase de poids moléculaire élevé

259 L. Heilmeyer, Jr., F. Battig, and H. Holzer: Characterization of a Glutamine Synthetase *b* Activating (Deadenylylating) Enzyme System in *Escherichia coli*

280 M. Iwatsubo et J. L. Risler: Étude par dichroïsme circulaire des interactions hème-flavine-protéine dans le cytochrome b_2 (L-lactate oxydoréductase) de la levure

335 G. Hänisch, J. Engel, M. Brunori, and H. Fasold: Ligand Induced Conformational Changes in Various Normal and Modified Hemoglobins as Indicated by Changes in Optical Rotatory Dispersion

343 C. Haškovec and A. Kotyk: Attempts at Purifying the Galactose Carrier from Galactose-Induced Baker's Yeast

353 H. R. Bosshard, K. H. Jørgensen, and R. E. Humbel: Preparation and Properties of Cyanoethylated Insulin. An Insulin Derivative with Blocked Amino- and Imidazole-Groups

371 J. Wolff and I. Covelli: Factors in the Iodination of Histidine in Proteins

383 B. G. Malmström, A. Finazzi Agrò, and E. Antonini: The Mechanism of Laccase-Catalyzed Oxidations: Kinetic Evidence for the Involvement of Several Electron-Accepting Sites in the Enzyme

392 F. Müller, V. Massey, C. Heizmann, P. Hemmerich, J.-M. Lhoste, and D. C. Gould: The Reduction of Flavins by Borohydride: 3,4-Dihydroflavin. Structure, Absorption and Luminescence

419 G. Kopperschläger und E. Hofmann: Über multiple Formen der Hexokinase in Hefe

439 Z. H. M. Verjee: Isolation of Three Acid Phosphatases from Wheat Germ

451 B. Edlund, L. Rask, P. Olsson, O. Wålinder, Ö. Zetterqvist, and L. Engström: Preparation of Crystalline Nucleoside Diphosphate Kinase from Baker's Yeast and Identification of 1-[^{32}P]Phosphohistidine as the Main Phosphorylated Product of an Alkaline Hydrolysate of Enzyme Incubated with Adenosine [^{32}P]Triphosphate

456 J. Millet et R. Acher: Spécificité de la mégatériopeptidase: une amino-endopeptidase à caractère hydrophobe

478 F. Wanka and C. L. M. Poels: On the Problem of an Enzymatic Regulation of DNA Synthesis in *Chlorella*

483 E. Eggermont: The Hydrolysis of the Naturally Occurring α-Glucosides by the Human Intestinal Mucosa

488 E. Eggermont and H. G. Hers: The Sedimentation Properties of the Intestinal α-Glucosidases of Normal Human Subjects and of Patients with Sucrose Intolerance

497 K. H. Nielsen, V. Simonsen, and K. E. Lind: Dihydropteridine Reductase. A Method for the Measurement of Activity, and Investigations of the Specificity for NADH and NADPH

507 G. di Prisco and H. J. Strecker: Effects of Phosphate and other Ionic Compounds on the Activity of Crystalline Beef Liver Glutamate Dehydrogenase

512 N. C. Brown, R. Eliasson, P. Reichard, and L. Thelander: Spectrum and Iron Content of Protein B2 from Ribonucleoside Diphosphate Reductase

534 R. Bohnensack und E. Hofmann: Einfluß des pH-Wertes auf die Kinetik der Hefe-Hexokinase

555 J. Mikola and E.-M. Soulinna: Purification and Properties of a Trypsin Inhibitor from Barley

561 N. C. Brown, Z. N. Canellakis, B. Lundin, P. Reichard, and L. Thelander: Ribonucleoside Diphosphate Reductase. Purification of the two Subunits, Proteins B1 and B2

585 R. I. Cheftel, M. A. Parnaudeau, R. Bourrillon et J. Moretti: Structure de l'haptoglobine de lapin. Préparation et propriété des glycopeptides

Cellular Biochemistry and Metabolism

36 J. Neuwirt, P. Poňka, and J. Borová: The Role of Heme in the Regulation of δ-Aminolevulinic Acid and Heme Synthesis in Rabbit Reticulocytes

55 L. A. Menahan and O. Wieland: Interactions of Glucagon and Insulin on the Metabolism of Perfused Livers from Fasted Rats

63 B. Foucher, A. Geyssant, D. Goldschmidt et Y. Gaudemer: Mise en évidence du mécanisme d'action de l'éthacrynate de sodium sur des mitochondries de foie de rat

70 M. I. Gurr, M. P. Robinson, and A. T. James: The Mechanism of Formation of Polyunsaturated Fatty Acids by Photosynthetic Tissue. The Tight Coupling of Oleate Desaturation with Phospholipid Synthesis in *Chlorella vulgaris*

93 A. K. Rawat: Effect of Hyper- and Hypoinsulinism on the Metabolism of Ethanol in Rat Liver

101 B. Müller, I. Ziegler und H. Ziegler: Lichtinduzierte, reversible Aktivitätssteigerung der NADP-abhängigen Glycerinaldehyd-3-phosphat-Dehydrogenase in Chloroplasten. Zum Mechanismus der Reaktion

149 P. Mitchell and J. Moyle: Translocation of some Anions Cations and Acids in Rat Liver Mitochondria

160 M. K. F. Wikström and N.-E. L. Saris: Effect of Hydroxylamine on Respiration and Oxidative Phosphorylation

182 L. A. Menahan and O. Wieland: The Role of Endogenous Lipid in Gluconeogenesis and Ketogenesis of Perfused Rat Liver

250 H. Eibl, E. E. Hill, and W. E. M. Lands: The Subcellular Distribution of Acyltransferases which Catalyze the Synthesis of Phosphoglycerides

286 H. Eriksson, J.-Å. Gustafsson, and J. Sjövall: Steroids in Germfree and Conventional Rats. Free Steroids in Faeces from Conventional Rats

291 S. J. D. Karlish, N. Shavit, and M. Avron: On the Mechanism of Uncoupling in Chloroplasts by Ion-Permeability Inducing Agents

299 L. Ernster, I.-Y. Lee, B. Norling, and B. Persson: Studies with Ubiquinone-Depleted Submitochondrial Particles. Essentiality of Ubiquinone for the Interaction of Succinate Dehydrogenase, NADH Dehydrogenase, and Cytochrome *b*

348 J. Káš, J. Hladík, and V. Šícho: Study on Metabolism of Phospholipids in Animal Tissues

402 B. P. Lisboa and J.-Å. Gustafsson: Biosynthesis of 18-Hydroxytestosterone in the Human Foetal Liver

406 B. Åkesson: The Acylation of Diacylglycerols in Pig Liver

415 S. Orrenius and H. Thor: Fatty Acid Interaction with the Hydroxylating Enzyme System of Rat Liver Microsomes

424 M. Müller and K. M. Møller: Urate Oxidase and its Association with Peroxisomes in *Acanthamoeba* sp.

503 B. P. Lisboa and J.-Å. Gustafsson: Biosynthesis of 6β- and 6α-Hydroxyprogesterone in the Human Foetal Liver

519 P. F. Urban and M. Klingenberg: On the Redox Potentials of Ubiquinone and Cytochrome *b* in the Respiratory Chain

550 H. Eriksson, J.-Å. Gustafsson, and J. Sjövall: Steroids in Germfree and Conventional Rats. 21-Dehydroxylation by Intestinal Microorganisms

574 W. Fiehn and W. Hasselbach: The Effect of Diethylether upon the Function of the Vesicles of Sarcoplasmic Reticulum

Natural Products

107 M. Akhtar, A. D. Rahimtula, I. A. Watkinson, D. C. Wilton, and K. A. Munday: The Status of C-6, C-7, C-15 and C-16 Hydrogen Atoms in Cholesterol Biosynthesis

167 O. W. Thiele und W. Kehr: Die „freien" Lipide aus *Brucella abortus Bang*. Über die Neutrallipide

189 C. Lacave, J. Asselineau, A. Serre et J. Roux: Comparaison de la composition chimique d'une fraction lipopolysaccharidique et d'une fraction polysaccharidique isolées de *Brucella melitensis*

245 C. Galanos, O. Lüderitz, and O. Westphal: A New Method for the Extraction of R Lipopolysaccharides

378 K. Demisch and W. Staib: An Improved Method for Isolation and Identification of Hydroxylated Testosterone Metabolites as Trimethylsilyl Ethers from Biological Material

463 B. Åkesson: Composition of Rat Liver Triacylglycerols and Diacylglycerols

526 P. Benveniste, M. J. E. Hewlins et B. Fritig: La biosynthèse des stérols dans les tissus de tabac cultivés *in vitro* Cinétique de formation des stérols et de leurs précurseurs

Immunochemistry

128 J. R. Dunstone: Fractionation in a Density Gradient of some Glycoproteins from Human Ovarian Cyst Fluids

229 G. Gerisch, D. Malchow, H. Wilhelms und O. Lüderitz: Artspezifität Polysaccharid-haltiger Zellmembran-Antigene von *Dictyostelium discoideum*